User's Guide

For

INFINITT CD Viewer

INFINITT Co., Ltd.

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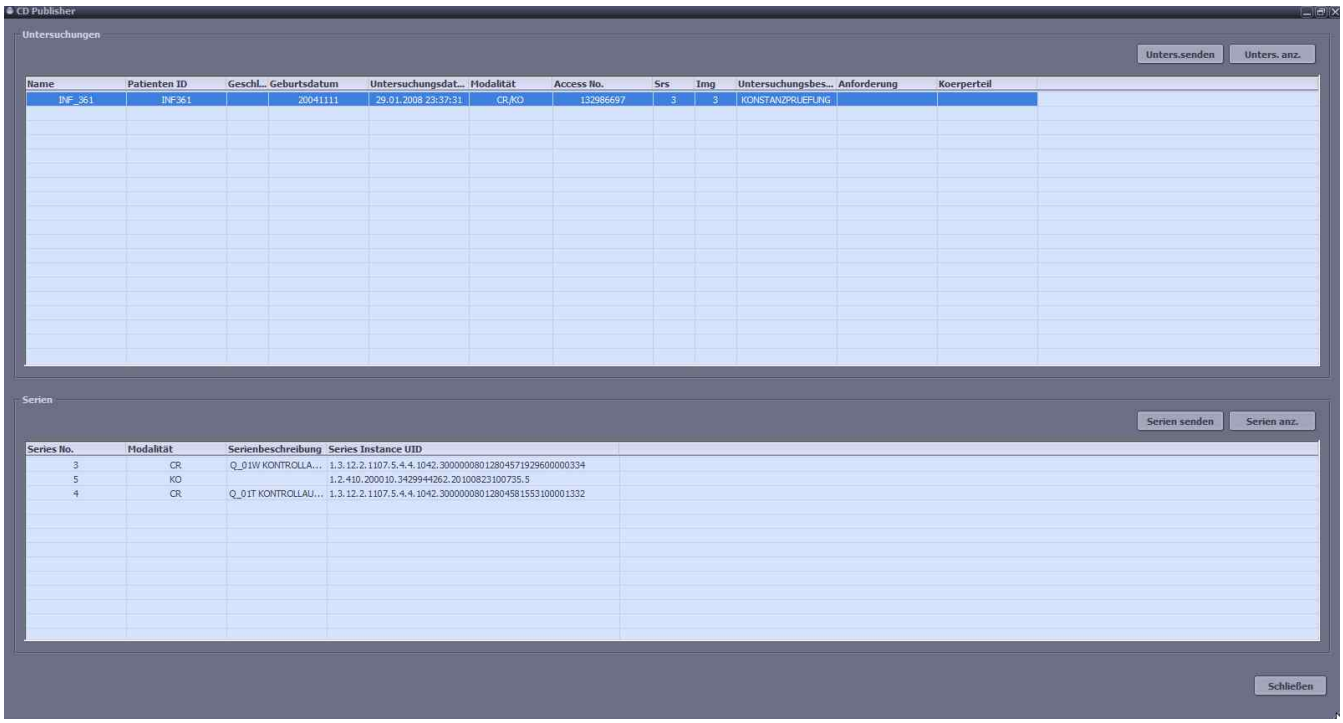
1. To work with the worklist

1.1. Finding studies in your worklist



◘ **On thw Worklist, patient exam lists will be shown.**

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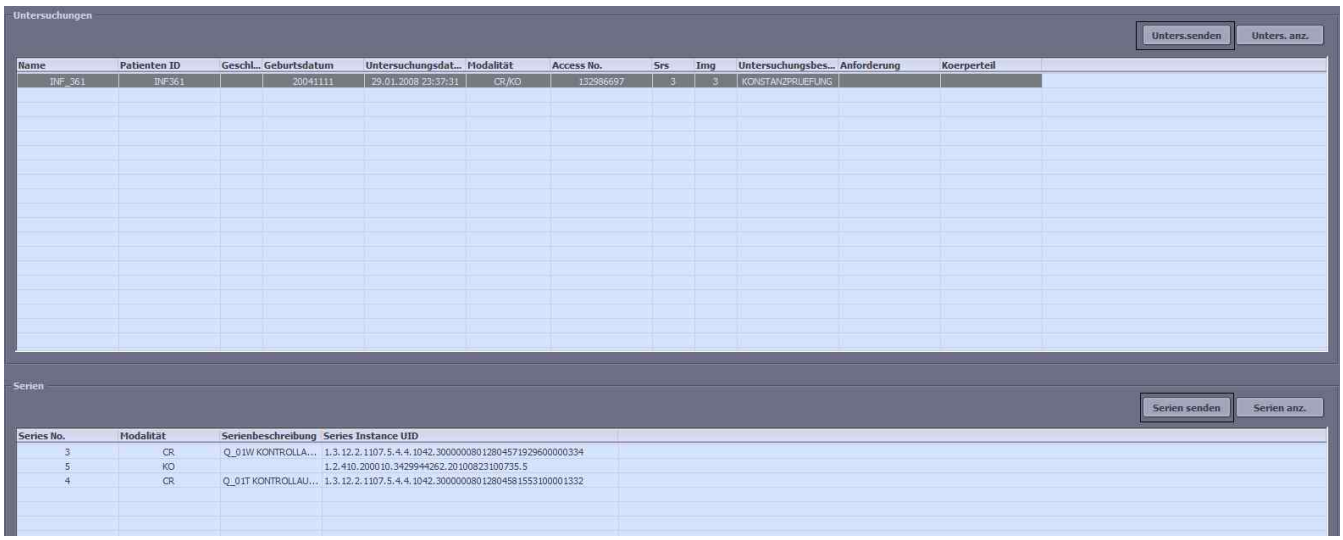
1.2. Sending images

◘ To send images

① Select the exams from the Worklist.



② Click Send on top menu to send a study or a series.

2. Viewing Images

2.1. Viewing your Images

Once you have found the study you want to look at, you can open it for viewing in two ways.

① Select the study from your Worklist and click STUDY open from the toolbar on the top.

② Or just double-click on it

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2.2. The composition of the Viewer

- Image Set layout: The Image Set comprises the data set which matches the series.
- Display set: The Display Set defines how the image set will be displayed.
- Apply All: If you set the Apply All option to on, the adjusted window level and zoom values are applied to all the images. You can also use the Select All tool to apply changes to all images of current series instead of the Apply All tool.
- Image set layout title bar : On the top of the Image set, the information of the current opened image is shown and can be configured by right-clicking.

- Basic tools
  - You can search the previous or next exams of the opened exam by clicking the left and right arrows. Also, you can open the list of the opened exams. By right-clicking it, the Opened exam information box will appear and you can configure the detailed inforamation.
  - Crosslink: By clicking it, you can toggle on and off.
  - Default Layout / Hanging protocol: You can apply default layout or pre-defined hanging protocol. You can configure the Imageset Layout by clicking *Config HP* and save the current layout as a hanging protocol by clicking *SaveHP*.
  - Image Set Layout: Clicking the downward arrow allows you to show the dropdown list of Imageset layout. You can configure the Imageset Layout by clicking *Config.*
  - Worklist: The worklist will show up.
  - Related exam : When your viewing images have the related exam, we support its list in the viewing window. If your toolbar is vertical, the Related exam button is enabled. When clicking the button, the list of the related exams pops up. If you have a horizontal toolbar, you will see the list of the related exams. You can copy the reports in the popup window and paste them into the report window. If you do not see the Related exam button, check in the Display related exam list button from Setting >Toolbar configuration.
  - Report: The Report window will show up.
  - Close: When you want to close exams, you can click the Close button or use hotkey (by default: alphabet C)

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2.3. Changing Layouts

◘ By clicking simple icons,

① To change Image set layout click the Image set layout combo box in the toolbar and select the layout to display.
② Click display set layout combo box in the Image set title bar to modify Display set layout.
③ If you want to edit the Display layout select *Config* from the Layout combo box.
④ In the Display set layout window to add a new layout click *New* button, and to edit it click *Edit* button.
⑤ Define the *Display set name* and the number of rows or columns.
⑥ By dragging and dropping arrange the Display set layout.
⑦ Press *OK* button.

2.4. Thumbnail Window

The thumbnail windows display images from the each exam. A thumbnail window has two modes; Series and Images

To view a series or image in the thumbnail window you can drag and drop thumbnails to the Viewer, double click in the thumbnail window or just use a hotkey. If you want to maximize your viewer, you can hide the thumbnail window. Placing your mouse near any edge of a window will appear the hidden thumbnails.

- Series mode thumbnails: Each thumbnail represents first image of each series.
- Image mode thumbnails: Images are shown as a thumbnail. To change Image mode thumbnails, check the Image mode in the Hanging protocol configuration window or use the right mouse menu over the thumbnails window.

2.5. Using the Hotkeys

The viewer provides the following hotkeys to allow users to perform tasks by pressing a simple key combination. The use of these hotkeys can be much faster than using the mouse. Almost all functions provided by the viewer can use all hotkeys except for the keys listed below.

Items	What it does
Number 0~1	Select series (1 : First, 2 : Second ...)

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Function key F1~F12	Select window level preset
ESC	Select the 'Selector' tool

2.6. Scrolling the Images

There are four ways to scroll up/down images by using the mouse wheel, using the keyboard, normal scroll mode on the toolbar and the auto scroll mode on the toolbar.

- Scrolling using mouse: Wheel down shows next images and wheel up shows previous images. The order of displayed images is determined according to sort criteria.
- Using keyboard: A hot key can be mapped to scroll down and another hot key can be mapped to scroll up. Press those hot keys to show the next or previous images.

- Normal Scroll mode: Selecting 'Auto scroll' in the toolbar changes the tool to normal scroll mode. In this mode, dragging the mouse upward displays the previous image and dragging the mouse downward shows the next image.
- Auto Scroll mode: In normal scroll mode, clicking the mouse wheel button sets the tool mode to auto scroll and creates a marker. The further the cursor goes from the marker, the faster images scroll. Clicking the wheel button will stop the auto scroll mode.

2.7. Convert

To load images to the local database INFINITT PACS provides the Convert function from the right mouse menu. There are four convert types provided: Original DICOM, JPEG, Bitmap and TIFF file.

When selecting DICOM files as your convert type, you can anonymize or fabricate patient demographics.

You are also required to choose JPEG Quality types when saving images as JPEG files.

When you convert multi-frame images, select AVI codec and type quality ratio that you want.

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3. More tools

3.1. More tools in Common tab

Icon	What it means
	Selector: It is the default tool. It is recommended that you always return to the 'Selector' tool after using another tool. The 'Selector' tool can also be selected by pressing the 'ESC' key.
	Pan: You can change the position of the image or images within your view. This is especially useful when the image is larger than the window like it is after zooming.
	Zoom: To magnify or reduce the image. Operate by left clicking and dragging and moving the mouse upwards to zoom in, and downwards to zoom out.
	Windowing: Drag the left mouse button up and down to adjust brightness. Drag the left mouse button side to side to adjust contrast.
	Magnification: By clicking this tool, it creates a small magnifying glass that moves with your mouse cursor over the image. The magnifying glass can be resized and the content can be zoomed on the fly. To resize the magnification factor within the box press and hold the left mouse button with the Ctrl key depressed. Similarly, using the Shift key allows you to change the size of the magnification box.
	Fit: You can adjust the size of the image to fit the currently displayed window. It is especially useful after images have been zoomed or panned.
	Capture images: You can capture images from each mode and the captured images are actual DICOM images.
	Capture Image Set: You can capture any Image Set you want. For example, this function is especially useful for capturing Axial, Coronal, and Sagittal and VR views together.
	Capture as shown: The captured images include annotations and demographic information.
	Capture monitor: When you are using two or three monitors, this function is useful for capturing each monitor.
	Capture all screens: If you are using a two-monitor system, the screens of both monitors can be captured using this function.
	Refresh exam: The rest of series will be downloaded to the Viewer while viewing the series that you have selected from the Worklist.

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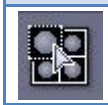
	Advanced thumbnail: Thumbnails that represent each series of original and related exams are configured in the display window as you want.
	Display Image only: The image in each cell is only displayed. (All text information is hidden.)
	The image is been zoomed at 100 %. You can use this function in 2D mode and Mammo mode.
	The image is being displayed at 100% of its actual size. This function is available in Mammo and 2D mode.

3.2. More tools in 2D tab

Icon	What it means
	Select All: All images that are displayed in the display window are selected.
	Select All Inverse: It is used to select Images that are deselected, and deselected images that are selected.
	Select Image set: Image sets that are displayed in the display window are selected.
	Reverse and Flip: They enable you to flip the images on its vertical and horizontal axis.
	Rotate: The tool rotates the image 90 degrees clockwise or counter-clockwise.
	180 Rotate: By clicking this, the image rotates 180 degrees clockwise.
	B/W Inverse: It lets you view the image with the color inverted.
	Ellipse/ Rectangle/ Polyline Shutter: A black overlay over the Viewer. It is useful for hiding bright, distracting parts of an image when you want to examine specific detail.
	Sharpen/ Average Filter: To remove noise and enhance image quality, each filter supports three level filtering: High, Medium and Low . 2D and MPR images are applied.

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	Auto scroll: By clicking this tool, dragging the mouse upward displays the previous image and dragging the mouse downward shows the next image.

3.3. More tools in the Annotation tab

Icon	What it means
	C-T Ratio: The transverse diameter of the heart, compared with that of the thoracic cage.
	Limb Length Discrepancy: To determine the problem causing two legs are of unequal lengths.
	Center Line: To find the middle points of two lines and draw the centerline between them
	Profile: To show the Profile graph of Pixel value. Select Export CSV to export results in excel files.
	2D table: To show the Pixel value of the certain area
	Calibrate: To show the pixel spacing value. You can export results in excel files.
	Spine Label: To number the each spine and disc.
	Volume Measure: To measure the volume in the sonographic image
	2D arrow: For pointing to features of interest
	2D Text: For annotation on the images
	2D Box: To insert the note
	Key image: To create Key images. Please refer to the chapter 6.2. Selecting Key images .
	To draw the circle, rectangle, polyline and free line.

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	To measure the distance between the straight lines
	Measure 2D angle: For measureing angles between features on the image
	Measure area Ellipse/ Rectangle/ Freehand: To measure the area, minimum, maximum, average and standard deviation of pixel values of features within the ellipse, rectangle or arbitrary shape.
	Measure Cobb angle: To measure spinal deformities
	Marking: To mark with the text on the image
	Lens/ Hounsfield/SUV: To show the raw value of the point in which you have clicked within the image. (It has a different unit according to the modality.)
	Measure Multiple Cobb angle: Draw lines to measure multiple Cobb angle. Right-click on the last line to view the angles.
	Time intensity curve: It is a useful criterion in differentiating benign and malignant enhancing lesions in dynamic breast MR imaging, for more information, please, refer to the chapter 7.1. Annotating images.
	Curve: To draw a curved line. To finish, right-click.

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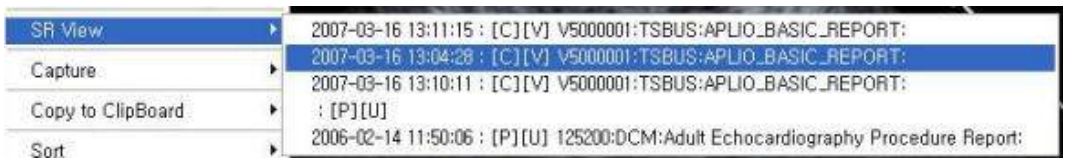
4. Advanced viewing

4.1. The folded and unfolded mode of multiframe images

With the unique INFINITT "unfold" option, multi-frame images are divided into individual images that can be viewed and scrolled individually. The button is located in the upper right corner of the Viewer. To change to the unfolded mode, click . It will change to . Your viewer displays the individual frame according to the display set layout.

4.2. Using SR manager

INFINITT PACS provides SR Manager which helps you in viewing Standard Reports. When an exam contains a Standard Report, SR View menu is automatically enabled from the right mouse menu.



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